

IOWA HIGHWAY RESEARCH BOARD

Minutes of April 25, 2003

Regular Board Members Present

L. Brehm	J. Krist
R. Ettema	K. Mahoney
T. Fonkert	C. Marker
L. Greimann	G. Parker
D. Julius	J. Selmer
B. Keierleber	C. Van Buskirk

Alternate Board Members Present

J. Berger for J. Adam	L. Jesse
R. Younie for R. Gould	G. Miller
	R. Schletzbaum

Board Members With No Representation

M. Nahra

Secretary

M. Dunn

Visitors

Jenny Balis	<i>FHWA</i>
Bob Given	<i>Iowa Concrete Paving Association</i>
Sara Buseman	<i>Iowa Department of Transportation</i>
Ed Engle	<i>Iowa Department of Transportation</i>
Mike Heitzman	<i>Iowa Department of Transportation</i>
Sandra Larson	<i>Iowa Department of Transportation</i>
Mohammad Mujeeb	<i>Iowa Department of Transportation</i>
Scott Neubauer	<i>Iowa Department of Transportation</i>
Bob Steffes	<i>Iowa Department of Transportation</i>
F. Wayne Klaiber	<i>Iowa State University</i>
Vern Schaefer	<i>Iowa State University</i>
David White	<i>Iowa State University</i>
Terry Wipf	<i>Iowa State University</i>
Steve Andrle	<i>Iowa State University/CTRE</i>
E. Tom Cackler	<i>Iowa State University/CTRE</i>
Dale Harrington	<i>Iowa State University/CTRE</i>
Todd Happel	<i>Snyder & Associates</i>
M. Asghar Bhatti	<i>The University of Iowa</i>
Hosin "David" Lee	<i>The University of Iowa</i>

The meeting was held in the Large Materials Conference Room at the Iowa Department of Transportation, Ames, Iowa. The meeting was called to order at 9:00 A.M. by Dr. Rob Ettema.

Agenda review/modification

- Agenda item number seven, Final Report TR-479, “Investigation into Improved Pavement Curing Materials and Techniques: Part II (Phase (III))” will be presented at the May meeting.

Approval of the minutes

- Lyle Brehm moved to approve the minutes from the February 28, 2003 meeting with no additions or corrections. Charles Marker seconded. Carried with 13 yes, 0 no, and 0 abstaining.

Announcement of regular and alternate member changes

- Jeff Krist, Council Bluffs, replaces Jerry Byg, Ames, as a regular member. Rick Fosse, Iowa City, remains as the alternate for that seat.
- Following the meeting, information was received that John Joiner, Ames, will now serve as the alternate for Greg Parker, Cedar Rapids.

Final Report TR-419, “Education on Urban Corridor Issues Through Computer Animation”

- Todd Happel, Snyder and Associates, reviewed a handout and discussed the project background, animated video goals, and results of the research project.
- Dale Harrington, who was with Snyder and Associates and was involved with the start of this project, reviewed the initial approach that was proposed to the Board.
- The DVD, “Mount Vernon Road - A Solution Through Partnership” was shown.
- The learning curve and cost issue was discussed in comparing four years ago to now. Currently, more people are familiar with computer capabilities (computers also have more capabilities) and costs would go down accordingly.
- It was mentioned that this DVD would be a good teaching tool in the classroom.
- With the original goal of showing how this process would be helpful to other communities, the distribution of the DVD was discussed. DVDs are available from Mark Dunn upon request. Dale Harrington will also ask at the SUDAS District meetings how many would be interested in receiving a copy and will coordinate distribution with Mark Dunn.
- Jim Berger moved to accept the final report. Bob Younie seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final Report, TR-443, “Evaluation of Rammed Aggregate Piers for Highway Applications in Iowa Soils”

- Dr. David White, Iowa State University, covered the demonstration projects reviewed in the research. The first project, embankment foundation reinforcement rammed aggregate piers,

included a review of information on the site descriptions and maps for stone columns and geopiers, the comparison of site characteristics, the construction of both stone columns and geopiers, the testing and the results. The second project, box culvert reinforcement, included a review of information on the site description and plan, the construction, the settlement monitoring data, and other testing and results. The third project reviewed included an update on the bridge approach settlement project on IA Hwy 218. The presentation was closed with conclusions and the suggested next step. The monitoring of these projects will continue through 2005.

- In discussion, it was Dr. White's opinion that this technology could be used to replace piling in a stub abutment if there was adequate protection from scour.
- With costs varying with length, Dr. White believed that the longer geopiers get, the higher the cost per foot. For this project, geopiers had a similar cost to the stone columns.
- Bob Younie moved to accept the final report. Brian Keierleber seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Final Report, TR-445, "Development of Bridge Load Testing Process for Load Evaluation"

- Dr. Terry Wipf, Iowa State University, reviewed the problem statement, solution, relational pictures and graphs, information of the seven test bridges, diagnostic testing of a bridge (brief case study), field test results, LFD rating for HS-20 vehicle (Conventional AASHTO LFD vs. WinSAC LFD), results of diagnostic testing on a single case bridge, and conclusions of the research.
- It was mentioned that this process would not replace the AAHSTO bridge rating calculations, which are relatively quick and inexpensive. However, this would be a useful tool for enhancing unique situations. The idea of fleet management was also mentioned. This involves looking at results from a sample group (fleet) of a particular type of bridge and extrapolating useful information from that to conventionally rate the bridge as part of that fleet (still keeping in mind that all bridges have their unique characteristics).
- It was not known if there were any other states actively doing follow up checks/testing to monitor deterioration of bridges that were verified through testing to not need posting.
- Charles Marker moved to accept the final report. Christy Van Buskirk seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Extension Proposal for TR-474, "Development of a Mix Design Process for Cold In-Place Rehabilitation Using Foamed Asphalt"

- Dr. Hosin "David" Lee, The University of Iowa, discussed the background information, the oversight committee, the problem statement, specifics on the research progress and results from the first phase of the research. He then presented the future testing plan, the new mix design procedure, and the reasons and amounts of the time and funding extensions.
- There has been very little work done using the foamed asphalt technique with RAP materials.
- The Nottingham asphalt test was described as being a dynamic load test.

- The involvement of industry that has interest in this information was discussed. Koch Materials will be providing parallel emulsion testing so that the two can be compared. This stage of testing the same RAP material will begin in May.
- Jim Berger moved to approve the extension proposal with the funding split of 60% Primary, 35% Secondary and 5% Street. Lyle Brehm seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Proposal, “Field Evaluation of Compaction Monitoring Technology”

- Tom Cackler, Iowa State University/CTRE, presented the objectives, research plan for Phases I (this research) and II, the funding breakdown for Phase I, and the funding potential from FHWA for Phase II. He addressed the issues discussed at the February meeting about intellectual property rights and having this research tied to project TR-492, “Embankment Quality - Phase IV - Application to Unsuitable Soils.”
- This proposal is brought to the Board at this time due to the current available funding partnership.
- It was discussed that there will be a 3 phase comparison when this research is completed: correlating the DCP testing with the proctor tests and also with the information from Catapillar’s new equipment.
- Charles Marker moved to approve the proposal with the funding split of 80% Primary, 10 % Secondary and 10% Street. Greg Parker seconded. Carried with 14 yes, 0 no, and 0 abstaining.

Problem Statement, “Field Testing of Railroad Flat Car Bridges”

- Dr. F. Wayne Klaiber, Iowa State University, discussed the background (TR-421 and TR-444), current bridges, objective for continued work, research plan, proposed implementation, budget and research period of the proposed continued research on railroad flat car bridges.
- Varying lengths, cost savings, need for adaptability, and need for testing results was discussed.
- Lyle Brehm moved to approve the problem statement and have a proposal brought back to the Board. Doug Julius seconded. Carried with 13 yes, 0 no, and 1 abstaining.

Final voting for the prioritization of research topics for FY 03-04

- Members and alternates were allowed time to solicit support for any topic of special interest prior to voting.
 - Charles Marker and Jeff Krist asked for support for topic 4.02, “Erosion Control Best Practices Design Guide and Specifications” due to the recently changed permit requirements and as Phase II of the storm water implementation takes place, the smaller counties, cities and some state entities will be required to submit design requirements and other specifications to the DNR.
- The initial ballot and list, with short description, of brainstormed and past topics were e-mailed to members and alternates prior to the meeting. Ballot (one per regular member seat) results that were returned were compiled by Mark Dunn and results of the overall ranking were sent to

members and alternates on the April Board packet CD. After receiving the overall ranking results, each regular member seat was allowed to vote on each topic he or she wanted to have included in the final priority list. Each seat was allowed a total of 20 votes, with no more than 5 votes going toward any one topic (voting done by show of fingers for number of votes as topic was read aloud). The results were recorded, sorted and handed out later in the meeting. The top 20 - 25 will be considered the final research topic priorities for FY 03-04. Mark Dunn, with the assistance of the author of the topic idea, will develop RFPs for the top few to be reviewed at the June meeting.

Review of changes to the IHRB Business Plan

- Mark Dunn mentioned that all the changes that had been done were highlighted in gray.
- Section 2D, *Pilot Projects for Novel Ideas*, was encouraged.
- The Business Plan is on the Materials-Research web page at the following address: http://www.dot.state.ia.us/materials/research/ihrb/iowa_highway_research_board.html. Select "Business Plan" from the menu box on the right side of the window. It will be updated once the final changes have been approved by the Board.
- Mark Dunn will complete making a few more minor recommended changes and bring the Business Plan back to the May meeting for final Board review and vote.

Finalize location of 2003 IHRB Traveling Meeting

- Mark Dunn has looked into having the Board observe an active paving project that is using the longitudinal joint former. It is likely that there will be a project running in Buchanan County that would time well with the June meeting. Brian Keierleber offered to host the meeting at Fontana Park. More information should be known by the May meeting and will be discussed at that time. There will be alternative plans made incase of bad weather. Specific directions and details will be sent out with the Board packet prior to the June 27, 2003 meeting.
- The May meeting will be held at 9:00 A.M. in the Large Materials Conference Room at the Iowa Department of Transportation, Central Complex in Ames, Iowa.

New Business

- The idea of having a publication on completed research from the IHRB was discussed. Mark Dunn will look into having the Media and Marketing office of the DOT possibly assist with this.
- Sandra Larson mentioned that the most recent *RESEARCHnews* newsletter contained an article about the IHRB. This will be e-mailed to the Board members.

Dr. Rob Ettema adjourned the meeting.

Date of Next Meeting: THE NEXT MEETING WILL BE HELD FRIDAY, MAY 30, 2003 AT 9:00 A.M. IN THE LARGE MATERIALS CONFERENCE ROOM AT THE IOWA DOT, CENTRAL COMPLEX, IN AMES, IOWA.

Mark Dunn, IHRB Secretary